DOCUMENT RESUME

ED 339 241 FL 019 981

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TITLE Making the Most of Satellites and Interactive Video. Technology in Language Learning Series.
INSTITUTION Centre for Information on Language Teaching and Research, London (England).
REPORT NO ISBN-0-948003-24-3
PUB DATE 91
NOTE 58p.; For related documents, see FL 019 976-980.
AVAILABLE FROM Centre for Information on Language Teaching and Research, Regent's College, Inner Circle, London NW1 4NS, England (6.95 Brisith pounds).
PUB TYPE Guides - Classroom Use - Teaching Guides (For Teacher) (052)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Broadcast Television; Class Activities; *Distance Education; Educational Technology; Elementary Secondary Education; Foreign Countries; Glossaries; *Interactive Video; Language Skills; Language Teachers; Listening Skills; Oral Language; *Satellites (Aerospace); *Second Language Instruction; Teaching Methods; Writing Skills
IDENTIFIERS *Authentic Materials

ABSTRACT

Possible applications of satellite television and interactive video in language teaching are described. Advice is given on how to set up, expand, and effectively exploit these technologies in the classroom. A variety of activities are suggested for developing listening, speaking, and writing skills at different levels. The guide concludes with a look at the future and some suggested guidelines to help teachers in purchasing new educational technologies and developing their use. Chapters include the following: (1) setting the scene (e.g., reasons for interest, problems in the use of authentic television, getting started or expanding); (2) exploiting authentic television in the classroom (e.g., news, advertisements, documentaries); (3) a user's view of authentic television in schools (e.g., research findings, implications of satellite television, recording and cataloging programs; (4) an eye to the future (e.g., receive and transmit, audio conferencing); and (5) "Interactive Video," by Michael Picciotto (e.g., benefits, the Nebraska Scale, commercial programs). A glossary is included. (LB)

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Technology in Language Learnin

Making the Most of Satellites and Interactive Video

by Brian Hill

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TECHNOLOGY IN LANGUAGE LEARNING
(*Series editor* Brian Hill)

Making the most of satellites and interactive video

Brian Hill

with contributions by
Suki Heath and Michael Picciotto

Illustrations by Pieter Sluis

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First published 1991
Copyright © 1991 Centre for Information on Language Teaching and Research
ISBN 0 948003 24 3

Cover design by Pieter Sluis
Printed in Great Britain by C.M.D. Limited

Published by Centre for Information on Language Teaching and Research, Regent's College, Inner Circle, London NW1 4NS

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INTRODUCTION

The aim of this book is to explore the possible applications in language teaching for two exciting new technologies - satellite television and interactive video. It is published within the series ***Technology in Language Learning*** which informs teachers about new developments and makes suggestions for exploitation. The information is relevant to those teaching in schools, further and higher education and equally applicable to English as a foreign language and to the teaching of foreign languages.

The first chapter sets the scene for satellite broadcasting, discussing advantages as well as problems and providing data on what is currently available. Advice is given on setting up and expanding satellite systems and a number of key questions are raised relating to the integration of satellite broadcasts into existing curricula.

Chapter two is concerned with effective exploitation in the classroom. Authentic television is broken down into a number of distinct categories - news, adverts, documentaries, etc - and those characteristics of each which are relevant to language teaching are examined. Based on the definition of these characteristics, a variety of activities are suggested for developing listening, speaking and writing skills at different levels.

The third chapter is contributed by Suki Heath, who is currently involved in a project to enhance the use of educational technology, including satellite television, in Essex schools. The author is an experienced teacher who discusses her own use of authentic television material and provides some interesting guidelines on what leads to success. Also included is a section which shares some of the key findings of a national survey into the extent to which satellites are used and the opinions of practising teachers about authentic television.

Chapter four looks to the future and discusses the role and potential of satellite broadcasts in creating an international learning community. Particular attention is focused on initiatives to provide teachers with opportunities for participation in the production of programmes and in schemes designed to promote learning across national boundaries.

Interactive video is not as readily available, but it is a powerful development which creates exciting new opportunities for innovative learning strategies. In the last chapter of the book, Michael Picciotto, who has made a special study of the area, describes interactive systems and gives advice on how to exploit the medium successfully.

Making the most of satellites and interactive video concludes with a look at the future and some suggested guidelines to help teachers with the difficult task of purchasing and developing their use of new educational technologies.

CHAPTER ONE

Setting the scene

Flicking around the dials of the satellite systems produces a bewildering array of choice. There are some 55 different channels beaming material to various parts of Europe in languages from Greek to Japanese and Dutch to Swedish, though the main provision is, not surprisingly, in English, French, German, Spanish and Italian. Today you could watch shopping tips from Germany, a travel magazine from France, a business report from Holland, before taking in *'Eco Revista'* from Madrid, a weather report from Italy, not to mention Benny Hill, the Muppets, the Invisible Man and a cricket test match special from the West Indies.

There is, of course, a great deal of nonsense knocking around in the ether, but satellites also provide a rich seam of language resources which can be mined for those nuggets and pearls which so enrich the learning of languages. This book aims to help those interested in using authentic television by providing practical information on getting hold of material, by offering guidelines for the selection of the elusive one percent of valuable programmes, by making suggestions on how to use authentic TV in the classroom and by sharing the experiences of colleagues who have already built the use of news, adverts, documentaries and dramas into their curricula.

Why should we be interested in using authentic TV?

Authentic television - programmes produced for a native-speaking audience - has a number of advantages.

- ★ It is attractive and motivating, creating a sense of participation in the learning process.

- ★ It encapsulates a series of vignettes which can offer, albeit vicariously, exemplars of 'real' life.

- ★ It promotes an international perspective on life, broadening horizons, building cultural bridges between nations and bringing closer the possibility of a trans-national learning community.

- ★ New syllabuses place the emphasis on topic-based study of themes such as the environment, social issues, regional matters and transport - themes addressed on a daily basis by TV networks.

- ★ Topicality, a feeling of involvement in what is actually taking place, has become a useful tool in bringing language learning to life.

- ★ Most television is capable of immensely flexible exploitation - it can be used as the lynch-pin of tasks covering all four skills, with activities designed to suit the needs of learners from beginners to advanced.

- ★ Television can provide a range of paralinguistic clues, often essential for successful comprehension and accurate understanding. Similarly, the contextualising visual character of a country - its architecture, its customs, its climate, its social fabric - can be effectively portrayed and effortlessly absorbed.

- ★ Once the basic equipment is installed, authentic television costs very little to obtain and use.

- ★ The programmes are (usually) produced very professionally with a more generous budget than that normally provided for specifically educational purposes.

- ★ Lastly, but of great practical importance, exposure to authentic television helps language teachers keep their own linguistic skills on the boil, whilst ensuring they are familiar with political, social, economic and cultural developments in the country whose language they are teaching.

Are there problems in using authentic television?

All mediums have certain intrinsic problems to overcome and authentic television is no magic exception. Experience has shown, however, that the key to successful exploitation is generally to be found in the way in which the material is used and not inextricably linked to the content and presentation of the programme itself. The teacher represents the experiential filter through which the material is presented to the pupil/student, with the power to turn mediocre television into an effective learning tool and, it must be said, to turn potentially good teaching or learning material into an experience which the student perceives as frustrating and of little use.

Most of the problems listed below do have a solution.

- ★ Setting up a satellite system can be complicated and relatively expensive, though costs are coming down as the market principle of mass demand asserts itself. [See pp 7-12 for some hints on questions to ask before purchasing or up-grading equipment.]

- ★ The output is rather like the water from Niagara Falls, impressive but difficult to harness and use as it pours out of our sets. In practice, most viewing is through the intermediary of video which enables the flow to be paused, reviewed and analysed, thus providing an effective brake on the flow.

- ★ Selecting material can be laborious and time-consuming, though experience has shown that most users develop a 'brand loyalty' to a particular series which they record and use regularly.

- ★ 'Normal' television viewing is primarily for leisure and relaxation. A more active interface between the viewer and the screen is necessary if effective language learning is to take place. This is largely a matter of teacher presentation and convincing students of the educational value of what is being requested. Language acquisition from television requires a different mental set than that with which we approach 'Dallas' and the 'World Cup'.

- ★ Allied to this is the fact that television is an attractive **visual** medium and that in many programmes the sound element (the element which obviously concerns us most) is secondary. Activities have to be designed which effectively re-tune the learners' focus to what is being said. For much of the linguistic exploitation we want to undertake, the visuals have to become a support to comprehension with their seductive, sometimes distracting, element filtered out.

- ★ In a recent check, researchers found that some 550 hours of television per day were available to many potential viewers via terrestrial TV, satellites and cables. With this sort of through-put, obtaining accurate information becomes both difficult and essential. A number of useful publications have emerged, in particular *Satellite TV Europe,* which makes this process easier.

- ★ Copyright remains a rather complex problem but the new *Copyright, Designs and Patents Act* came into force in August 1989 and this has made things easier. Teachers may now legally record general television programme output and use it in their classes, provided their institution is covered by a licence negotiated with the Educational Recording Agency.

- ★ Encryption is the system used by some programme providers to make their signal unintelligible without a specially purchased decoder. The decoder is relatively cheap and simple to install and viewers may prefer this system to channels carrying adverts or direct PAY TV. The situation is likely to remain in a state of flux and enough non-encrypted material in the major languages will be available for some time to come.

TV5

1st

15.05 TV5 Infos
15.15 En Avant Astérix
16.00 Flash Varicelle
Emission pour la jeunesse
16.30 Genies en Herbe
17.00 La Chasse aux Trésors
18.00 Fête Nationale Suisse
18.30 TV5 Infos et Météo
18.40 Des Chiffres et des Lettres
19.00 Spécial
actualité
Amérique-
isé et
che
tés

SAT 1

ASTRA 19.2°E V 11.289GHz
EUTEL 13.0°E V 11.507GHz

07.00 Programmvorschau
07.05 Familie Feuerstein
07.30 Batman 1 und 2
08.20 Telstip Kochen
08.30 Kline News
09.00 SAT1 Sport
09.30 Traumreisen - unterwegs
09.55 So gesehen
10.00 Beleht des Gerichtes
11.40 Mitten in Europe
12.10 Fantasy Island
13.00 Telstip Freizeit
13.10 Köpfchen, Köpfchen
13.35 Unsere kleine Farm

RAI DUE

WEEKDAYS

06.00 Palatrac
07.00 L'Albero Azzurro
07.30 Capitol
08.30 DSE
08.55 Casablanca
09.00 Documentario
Telefilm
11.00 Capitol
12.00 TG2 - Ore Tredici
12.15 TG2 - Diogene
12.30 TG2 - Economia
13.00 Beautiful
13.50 Saranno Famosi
14.30 73° Giro D'Italia
16.00 TG2 - Flash
16.05 Dal Parlamento
16.10 Spaziolobero
16.30 Videocomic
17.20 TG2 - Sportsera
17.35 Casablanca
17.40 Le Strade a San Francisco Telefilm
Meteo 2
18.45 TG2 - Telegiornale
19.15 TG2 - Lo Sport
19.30 Film
TG2 - Stasera
Teatro N
Casablanca
TG2 - Notte/TG -
Europa/Meteo 2 - T
Oroscopo
Cinema di Notte

3SAT

ASTRA 19.2°E V 11.3479GHz
EUTEL 10.0°E V 10.968GHz
EUTEL 13.0°E V 11.09GHz

12.50 Nächste Woche in 3SAT
Programmvorschau
13.05 Spielhaus
Sendereihe für Kinder
13.35 John Klings Abenteuer
14.00 Naturgesund
14.30 Sport-zeit extra
16.25 Die Odysee der Neptun Kanadischer
Spielfilm von 1973
18.00 Heute
18.22 3SAT-Studio
18.30 Wie war das damals?
20.00 Aspekte

RTL PLUS

ASTRA 19.2°E V 11.229GHz

07.00 Konfetti
08.35 Klack
09.15 Märchen aus aller Welt
09.45 Gewußt wie
10.00 Film TBA
12.00 Flintstone Kids
12.25 Cops
12.50 Teenage Mutant Hero Turtles
13.15 Sternstar Junior
13.30 Zusammenfassung Goodwill Games
15.06 High Mountain Rangers
15.55 Der Engel kehrt zurück
16.45 Wunderbare Jahre
17.15 Der Chef
18.00 Argefft
18.45 RTL aktuell
19.15 Film TBA
21.00 Delta
22.00 Film TBA
23.20 Film TBA
00.50 Aerobics
00.55 Programmschluß

GALAVISION

MONDAYS

00.00 Toros
01.00 Pelicula
03.00 ECO con Crisplin Barrera
04.00 ECO con Jorge Riancho
05.00 ECO Deportes
06.00 ECO con Rocio Villagarcia
07.00 ECO con Jacob Zabludovsky
08.00 ECO con Ram Fregoso
09.00 ECO con Lucy Montes
10.00 ECO con Alfonso Teja
11.00 ECO con Francisco Fortuño
12.00 ECO con Alfonso Teja
13.00 ECO con Francisco Fortuño
14.00 ECO con Abraham Zabludovsky
15.00 Telenovela
16.00 ECO con Jorge Berry
17.00 ECO con Juan Calderón
18.00 Comedias Infantiles
19.00 Telenovela
20.00 Telenovela
21.00 ECO con Abraham Zabludovsky
22.00 ECO con Guillermo Ortega
23.00 'Aquí Está... Shabedab y Bla Bla Bla'

EUROSTEP

WEEKDAYS

02.00 Information Technology in Education
02.30 Update in Microelectronics Applications
03.30 Medical Education
04.00 French Programmes
05.00 Prime Time User
09.00 Europart
12.00 Glasgow 1990
12.30 Films and Research from Rothamsted Experimental Station
13.00 French Programmes
14.00 Prime Time User
16.00 Independent Living
16.30 TBA
17.00 Close

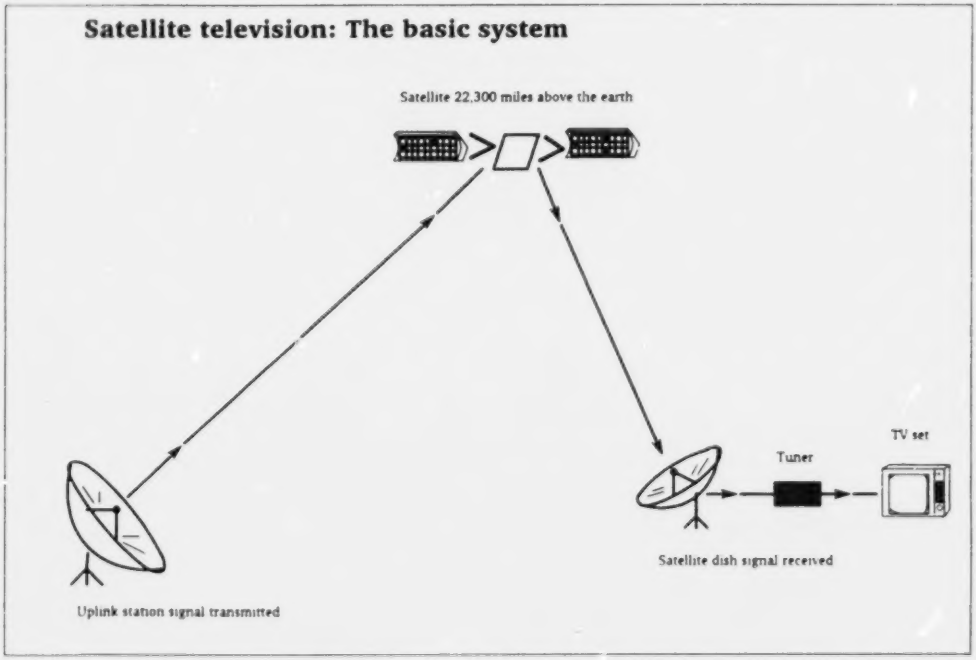
RTL - V

ASTRA 19.2°E H 11.391GHz

05.00 Rote Mix
07.00 Telekids
10.00 RTL-V Text
14.00 Reisebervsu!

Satellites - some background information

In 1945, Arthur C. Clarke, an Englishman best known as the author of such books as *2001 - A Space Odyssey,* put forward the idea that it was possible to place satellites in an orbit 22,300 miles above earth at which point the orbital speed of the satellites would match the rotating speed of the earth so that the satellites would appear stationary. Clarke himself probably never seriously supposed that 45 years later there would be some 200 satellites located in orbit in the 'Clarke belt', an area named after him.



Since the forties, there have been many developments to make satellites even more sophisticated, but the basic principles remain the same. A signal is beamed up to the satellite from an 'up-link' station on earth. The signal is then picked up by a 'transponder' (like a small TV transmitter), and re-directed back to earth. Each satellite can carry several transponders and is, therefore, capable of beaming a variety of programmes and data channels back to earth simultaneously. Depending on the location, the satellite signal can be received over a large portion of the earth, within a so-called 'footprint'. On the edges of this footprint, the signal is weaker, in the centre stronger.

To capture the programme, the viewer on earth needs a dish which picks up the signal, reflecting it onto an amplifying horn called an LNB, thence into a box of electronics called a tuner. From the tuner the signal is fed into the aerial socket of any working domestic TV set. Until a year or so ago, the dish needed was either 1.2 or 1.8 metres in diameter. At the time of writing a new breed of satellites called DBS (Direct Broadcasting Satellites) is being established which requires a smaller dish not much larger than a good-sized dinner plate.

Thus, the basic system is relatively simple and, incidentally, the quality of the signal is usually excellent. However, as with most recent technological innovations, we have succeeded in making things a little more complicated. To start with, the dish needs to be pointed very precisely at the satellite whose programmes are to be received. If you are sure you will only want to receive, for instance, *TV5*, one of the French programmes, this is not too important. However, it is frustrating to know that there are a lot more possibilities up there and, anyway, channels do come and go, so the best solution may well be to get a steerable dish which can be electronically operated from the classroom to point at whichever satellite you want to view. Such steerable systems are actually very easy to work, requiring at the user's end no more than the sort of keypad you have for remote control of the domestic TV set or the selection of different pre-set channels using the control buttons located on the receiver. They are considerably more expensive, costing around £1,500 as compared to £200 for a fixed DBS system, but for the modern language classroom still a good investment.

There is a sort of half-way-house currently available in the price range somewhere between the DBS and the steerables. One of the transmitting satellites is called 'Eutelsat 2F1' and this carries *TV5* (French), *Sat 1* (German) and *Galavision* (Spanish) together with some channels in English. For Eutelsat 2F1 you need a larger dish, with a diameter of 1.3 - 1.8 metres depending on where you are located in the footprint. Getting equipped for Eutelsat gives you Europe's most common languages at a reasonable price without having to steer around the skies, but the transmission situation is volatile and Eutelsat 2F1 may not continue much longer with its present portfolio of programmes.

The problem of encryption mentioned earlier is aggravating, though this does not, incidentally, affect foreign language programmes on Eutelsat. Encryption is one way of financing satellite broadcasting since the viewer then needs to purchase decoding equipment from the providers that can unscramble the signal again. However, for language teaching purposes there are still sufficient channels 'in the clear' to be able to get authentic material without the additional cost of decoders, since these arrangements relate primarily to films, sport and general entertainment channels.

Getting started or expanding: Some questions to ask and some tentative answers

Whilst teachers will no doubt continue to get authentic television by swopping tapes with colleagues abroad or making recordings themselves during visits, the easiest, most efficient and most common way of capturing authentic nuggets will increasingly be from satellites. A huge expansion in what is available is planned over the next few years and there is little doubt that all language departments can benefit in some way from this facility.

It is not always realistic to expect colleagues to have sufficient information about such a complex field to be able to deal effectively with 'super-salespeople'. So here are a few basic questions to be answered and points to consider before signing the cheque.

Which language or languages do I need and where to get them?

Here is a list of the main satellites and a selection of satellite channels likely to be of interest to language teachers (information correct as of November 1990):

Astra (19.2° East)

Sat 1	A good German language mixed entertainment channel with a regular news bulletin called 'Blick'.
RTL Plus	General entertainment channel from Germany, not really recommended for normal classroom use apart from 'Tele-Boutique' and 'RTL aktuell'.
Pro 7	General entertainment channel in German with lots of dubbed cartoons and series such as 'die Strassen von San Francisco' and 'Lassie'. Not recommended.
Teleclub	A scrambled channel from Switzerland with mainly German language films. Not recommended.
3 Sat	A more serious German language channel with plenty of documentary and cultural programmes.

JSTV — A channel broadcast in Japanese, primarily for Japanese living and working in Europe - sit-coms, business programmes, documentaries and childrens' shows.

Eutelsat - 1F5 (10° East)

Rai Uno — The main domestic Italian channel with a mix of news, documentaries, general entertainment, etc. Plenty of material here.

Rai Due — Italy's second national channel, also good with a slightly more selective mix than *Rai Uno.*

TVE1 — Spanish national broadcasting channel with a good mix of programmes.

3 Sat — A more serious German language channel with plenty of documentary and cultural programmes.

Gorizont

An extremely useful Russian satellite which transmits the main Russian television channel (in Secam), plus radio programmes. Gorizont was actually the first satellite to broadcast regularly to Europe. A separate fixed dish is normally needed to receive the programmes.

Eutelsat - 2F1 (13° East)

This also carries *3 Sat, Sat 1, Super Channel, Teleclub, the Nordic Channel* together with:

TV5 — Probably the best French language channel with a mix of news, entertainment, documentaries and cultural programmes.

Galavision — A 24 hour channel in Spanish from Mexico with a high proportion of live programming. [The UK is on the edge of the footprint and reception is not as good as for *TVE1*.]

TRT International — For Turkish speaking communities.

Telecom - 1C (5° West)

This carries a number of French language channels, but they are primarily broadcast in SECAM and not PAL [see Glossary].

TF1 — General entertainment in French.

Antenne 2 — The same channel that is broadcast terrestrially in France with a good mix of programmes.

La Cinq	A mixed entertainment channel.
M6	A mixed entertainment channel.
Canal J [in PAL]	A mainly scrambled channel with some good programmes for younger children.
Canal Plus	A general entertainment channel also scrambled.

Olympus (18.6° East)

Eurostep	A general European Educational Channel [See chapter 4].
Raisat	A mix of Italian language programmes.

TDF (19° West)

A French DBS satellite currently transmitting *'La Sept'*, a cultural channel.

DFS Kopernikus (23.5° East)

This carries the main German channels such ast *Sat 1, 3 Sat, RTL Plus* together with a number of lesser known channels such as *Eins Plus, PRO 7, Tele 5, BFS 3* and *West 3*. A larger disk is needed to receive this satellite outside Germany.

Eutelsat 1F4 (7° East)

Europace	Educational programmes.
Antena Tres	Spanish language entertainment.
Worldnet	English language news and information from the USA.

Information on satellites is carried in regular publications such as *Satellite TV Europe* [see Glossary].

Are there any problems in recording satellite programmes?

In practice, by far the most common use of satellite programmes is in recorded form, apart from the odd significant news or sporting event. With a few provisos, recording a satellite signal is no more difficult than recording a terrestrial one. The video recorder is usually the same and the cabling is just fed into the input socket of the video recorder in exactly the same way as for BBC or ITV programmes.

Proviso One: If you are wanting to record a SECAM signal from Russia or from France on the Telecom satellite, you will need either a signal converter or a

multi-standard video recorder and a multi-standard television set. Other French channels and all German, Spanish and Italian channels are broadcast in PAL, however, so these can be recorded on standard equipment used for UK channels.

Proviso Two: If you are likely to want to record simultaneously or on the timer from more than one channel, you will need some intermediate electronic switching and two recorders. So, for instance, if you wish to record programmes from *SAT1* and *TV5* using the time-clock after school hours, two separate recording systems are usually needed. This is not difficult and you simply have to make this clear when discussing specifications with your potential supplier. There are some cost implications, (approximately £150 for the extra electronics plus a second video), but it is a facility which is well worth having in institutions that teach more than one language.

Legal copyright problems have recently been relaxed. Although the situation has to be watched as it has proved volatile in the past, programmes may currently be recorded and used within institutions for educational purposes.

What do I need and how much will it cost?

This is obviously a difficult question since the 'it' can encompass a variety of choices and you may be reading this two or three years after publication. Currently, a single fixed dish system will cost around £200, with a steerable system costing in the region of £1,500. When purchasing, always ask suppliers for an estimate of installation costs since, on occasions, these can actually prove more expensive than the equipment itself.

In practice, it is likely that institutions will start with a relatively basic system, extending and enhancing it as different needs emerge. Our own situation at Brighton Polytechnic is that we started with one fixed dish [Gorizont for Russian] some six years ago and have had to meet constant demands to increase facilities. The provision now available to staff and students is three fixed dishes [Gorizont, Olympus, Eutelsat - 2F1] plus one steerable system, mainly used for Astra and Eutelsat. Also added was a simple VHS editing system (approximately £1200) and a budget provision of £300 p.a. for tapes.

Some key decisions on use

Since experience shows that the use of satellite TV in a department is likely to develop steadily or even explosively, here is a short check-list of key questions to be answered which will aid the drawing up of any specifications.

- Will the system be available for pupil/student self-study or just for staff? If the former, where will the system be located?

- Is the intention to use it in the classroom with lots of age groups or only with the most advanced students?

- Can it be fully integrated into curricula or is the intention to use it as an occasional self-contained 'bonus'?

- Will the system be used by (or of use to) colleagues in other departments such as Business Studies or Geography?

- Have the costs of maintenance, tapes and a possible cataloguing system been taken into account?

- How should the integration of authentic TV be organised? The best models seem to be where there is a 'champion' in the institution who takes overall responsibility, but where this champion ensures that there is a coordinated team approach towards recordings, feed-back on use, storage and the production of ancillary support materials.

- How is the Niagara Falls effect of a surfeit of material to be overcome? The wealth of output is at one and the same time one of the biggest advantages and a serious drawback to using satellite TV. The most successful development seems to be where a deliberately blinkered policy is pursued. Here topical news programmes are regularly recorded and discarded; other carefully selected excerpts are recorded sparingly with an eye to their shelf-life and flexible usability across a spectrum of classes. With these programmes (one a week/one every two weeks?) a member of staff is designated on a rota basis to view it and, if useful, to prepare worksheets or a viewing guide that can be stored with the tape. Short programmes such as 'Teletips' or adverts are a good starting point. However it is arranged within an institution, it is better to attempt a very modest amount of recording and preparation and to get that done properly, rather than to go for grandiose, ambitious but unrealistic plans.

- Will it be useful to record video data and teletext signals? Increasingly, screens of information can be summoned up via satellite from a variety of sources. It is also possible, with certain programmes, to choose between viewing with or without sub-titles. Whilst such signals can be viewed live, it is often useful to record them for later use. To do this, specially adapted video recorders are needed. Currently videos able to record tele-text signals cost in the region of £350. Once purchased, these video recorders do, of course, also have all the functions associated with standard recorders. (NB: This only refers to the recording of information which is not an integral part of the broadcast programme. 'Ordinary' sub-titles broadcast over the picture are automatically recorded).

CHAPTER TWO

Exploiting authentic television in the classroom

Authentic television provides teachers of languages with a rich seam of incredibly varied material. It is possible to use relatively serious programmes such as news, documentaries and drama, but also more trivial material such as adverts, soap operas and comedy. It is, therefore, important not to see authentic television as a single entity, but rather to break it down into its constituent parts. Understanding some of the main characteristics of the different types of authentic television is the key to selecting the most appropriate exemplars in the first place and then to devising the most effective follow-up activities for classroom exploitation.

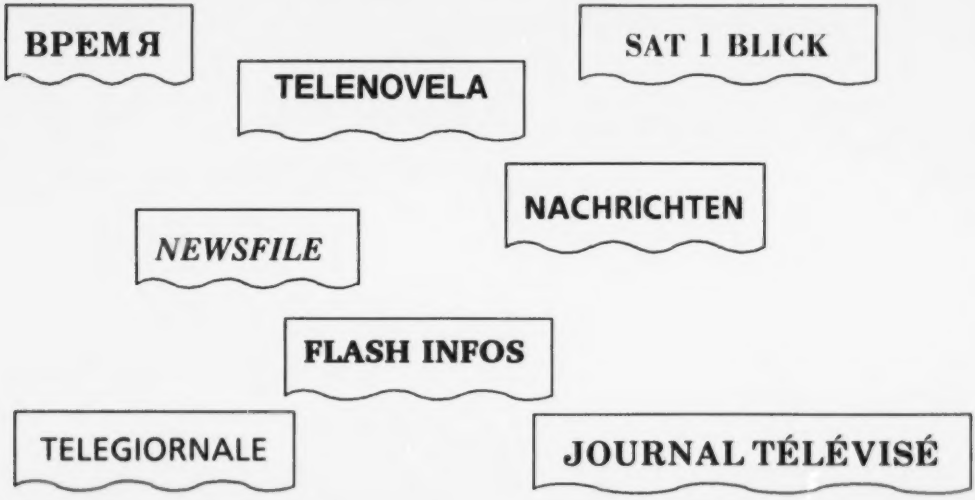
Television is just as varied as print. When we use poetry, we clearly adopt a different set of characteristics and activity possibilities than for job adverts culled from the newspapers. A novel presents us with the potential for in-depth advanced study which is not available from tourist brochures, but they in turn are capable of stimulating a wealth of interesting communicative activities. As for print, so for television. Thus, the intention in this chapter is to analyse some of the categories we come across, to tease out key characteristics, both positive and negative, and to point to some of the activities which stem from an understanding of these characteristics. It aims to provide a guide, a set of criteria with which to approach Niagara, together with some exploitation ideas which have been shown to work in the classroom.

News

News programmes are in many ways the simplest form of authentic television to use, particularly with more advanced students. The information is broken down into short easily managed modules, and news is readily accessible with many bulletins each day. A usefully wide variety of situation and language is introduced and the topicality of news broadcasts is often a strong motivator, as many themes handled have an international flavour which means learners may have some familiarity with the topic, thus aiding comprehension. A further point in favour of exploiting news bulletins is that the language is usually clearly spoken and the 'straight to camera' presentation gives learners the bonus of seeing faces in relative close-up, a feature considered by many teachers to be a considerable help with understanding.

Against these advantages should be set a few disadvantages, all of which can be overcome, but which do need to be borne in mind. Many news items are 'too topical' and they quickly date, losing their appeal. It is, therefore, sensible to choose items for the shelf which are not related to actual macro-political happenings, but which are of the more personal, human interest kind. News reports are often very far removed from the everyday experiences of learners and by their nature do not contain many examples of transactional language. The register of language (text read orally) can sometimes prove a little awkward, particularly if read quickly, and the common news diet of political comment, murder, robbery, riot and rape can be depressing if over-used and not lightened with other examples.

NEWS AROUND THE WORLD



So, armed with an understanding of what to look for when selecting news items for exploitation (i.e. examples with more advantages than disadvantages), the next question to address is what type of classroom activities are likely to be successful. Here are some front-runners, bearing in mind that the purpose of the activities is not to test, but to help learners develop their linguistic skills.

- A standard listening grid is a useful standard device which goes some way to overcoming the lack of preparation time.

ITEMS

	1	2	3	4	5
who?					
what?					
where?					
when?					
Comment					

- Keyword context questions, where you give pupils/students in advance a keyword which they have to watch out for. When it occurs, pause the video and

ask for the context in which the word occurs, e.g. 'multiple' - *News is just coming in of a multiple pile-up on the M25.*

- Re-use of keywords, where you ask for other sentences or phrases in which the word (here 'multiple') could be sensibly used.

- Note-taking, where students are asked to make notes of the key pieces of information and then given time to prepare a 'fair copy' for marking. This is probably best with the video being played through once for contextualisation, a second time with pauses for the rough notes to be made and a third time for reinforcement, either before or after the 'fair copy' is written.

- Alternatively the rough notes can be used to produce a summary of the bulletin, in the native or target language.

- A demanding but useful exercise is consecutive translation. For this the video is played once with pauses for explanation or discussion work to check comprehension of key words and phrases. The teacher who has prepared in advance a précis in English based on the language of the news bulletin then gives it to the students in dictation format. The learner's task is to write down phrase by phrase a translation of the summary as it is dictated, before watching the uninterrupted sequence again as a check.

- Prepared discussions work well, where, following classroom analysis and discussion of the various points made in a news report, group members are split into 'sides' representing a particular point of view. The discussion can then be spontaneous, or time can be given for each side to prepare its case and to decide who handles which particular point.

- It is often possible to obtain newspaper articles based on the same news report. The television bulletin can then be compared and contrasted from the point of view of differences in the information itself, the way that information is presented/slanted and the linguistic content.

- News bulletins are most appropriate for more advanced learners, but activities such as item sequencing, matching and word bingo can introduce even beginners to the joys of news programmes.

Adverts

Many channels carry adverts which can spark off some enjoyable and useful activities.

Adverts are short, compact and relatively easy to handle. There are usually strong links between what is seen and what is heard and the task of linguistic analysis is made more rewarding due to the fact that each word has been carefully weighed and reviewed before being included. Adverts have quite a long shelf life which means they can be used over a considerable time.

Adverts are, probably rightly, treated with some wariness by teachers, but experience has shown that they are enjoyed by the majority of learners, who find them entertaining and digestible.

As with news, adverts are readily available, but they have some obvious disadvantages. They almost invariably distort 'real' life, presenting a very artificial view of their country of origin. It is also true that the language of many adverts is difficult to understand due to background music, speed of delivery and the fact that the punch-line often depends on a play on words. The old adage, 'if you've nothing to say, sing it!' is all too frequently illustrated.

But, all that said, carefully selected adverts can be the starting point for some extremely useful work.

- Prediction is a good way of getting learners involved. Pause the video after a couple of seconds and invite guesses as to what product is being advertised and why learners think that. Carry on pausing for suggestions every five seconds until all is revealed.

- A standard worksheet is quite easy to produce and helps make the viewing experience more concrete. A format such as the one below has been found to work well.

ADVERTS: Standard Viewing Sheet
Brand name
Product
Who would buy it?
Who would use it?
What claims are made for the product?
Note any 'plus' words used (e.g. new, cheap, clean, etc)
Note any 'minus' words used (e.g. greasy, harmful, tasteless)
What do you think is good about the advert?
What do you think is bad about it?

- Synonym work goes down well with adverts. For this, pause the video during the second showing and ask for other ways in which something could have been

expressed. Stretching the strict dictionary definition of synonym encourages a variety of responses.

- Adverts are usually rich in visual content, so a good activity is to freeze-frame and simply invite learners to tell you what they see or to speculate on what the people in the picture are thinking. This activity, like many of those noted, can easily be adapted for pair or small group work.

- Project work is increasingly a feature of our teaching approach these days and adverts nearly always prove a good starting point. Having used commercials for developing comprehension skills or as a trigger for oral work, learners are usually well disposed to start creating adverts of their own. This could be based on the writing of an alternative script for a familiar advert or the composition of a new one. It can stop at the script stage or be taken further using audio recording or closed-circuit television.

Documentaries

Documentary programmes can prove of great interest to learners when they are based on themes of interest to the group. For instance, the many 'environmental/ conservationist' series which have been broadcast recently strike a chord with most groups.

There are a number of reasons why we should consider showing documentaries. The commentary is usually carefully controlled and the sound quality is good. There are strong links between what is seen on the screen and what is heard, providing a useful prop to comprehension. Most documentaries have elements of location filming which bring them to life and the information and arguments are usually carefully ordered and logically presented.

The main disadvantage is their length. If the whole programme is to be seen, it means viewing for, typically, 45-60 minutes which is likely to limit significantly the time available for follow-up activities and learner involvement. Another problem is that many documentaries often get into a well-oiled groove with lots of difficult language presented in commentary form, hence there tends to be a certain lack of spontaneity and of transactional language.

In addition to activities such as note-taking, directed discussion and keyword context work already outlined under 'News', there are a number of other useful follow-up exercises that can be based on documentaries.

- Proof marking and proof correction of short sections is useful for developing aural activity and accurate writing. Select a short, voice-over section of the programme, typically 3-4 minutes long. Play the sequence through once for orientation, then distribute a 'doctored' transcript containing a number of omissions and factual (obviously not grammatical) errors. Play the tape a second time with pauses and ask learners to underline any discrepancies between what they hear and what they are reading. A third run-through, again with pauses, then gives them an opportunity to correct the 'doctored' transcript.

- A simple activity which requires little or no preparation by the teacher (always a bonus these days) is student questioning. This can be 'retrospective questioning' where you play a short sequence (again 3-4 minutes) inviting learners as they watch to jot down a few questions, which are then asked and answered in pairs at the end of the excerpt. Another way of introducing this is to pause the video and ask students to ask and answer questions of each other until such time as you release the pause. There need be no limit on the questions; they can be retrospective, factual, linguistic, descriptive or speculative.

- For more advanced students, transcription often proves surprisingly popular when linked to authentic TV. The best way to do this is to play the chosen excerpt through a couple of times, pausing on the second run-through to ascertain comprehension. Then, using the language laboratory or an audio cassette with the sound-track dubbed on it, invite learners to produce a transcript of the excerpt.

- If a language laboratory is available, commentary work provides a demanding but useful task. For this, play a short excerpt (very short, the first few times this activity is tried) through twice, pausing frequently the second time for notes to be made. Give learners some space to digest these notes and then play the video through sound-down, asking them to record their commentary into the lab. This can then be listened to and corrected/improved as required. Commentary work can also be introduced with the original sound-track during the first two showings, in which case it is largely a 're-creation' exercise.

Drama

Drama covers a whole range of material from feature-length films to sit-coms; from detective serials to Shakespeare. It is, therefore, rather more difficult to generalise on

criteria for selection and on suggested exploitation activities since the 'message' is often a more specific determinant than the 'medium'.

In support of the use of drama, it is clear that film and plays usually make a pretty strong impact which motivates learners. Professional actors and actresses recreate and reflect situations, relationships and fantasies in a way that 'ordinary' people using the principle of controlled spontaneity common in language courses can never do. There is usually a wealth of transactional language providing linguistic exemplars to work from, together with valuable social and cultural insights. There is plenty of location filming to lift the action out of the studio and the sound quality makes language relatively accessible to learners.

Against these considerable advantages has to be set the fact that complete dramas are often too long to handle within classroom timetables and that in selecting just a few short sequences, the impact of the whole is lost. Many themes handled are, of course, inappropriate and there is always a danger that reality can be distorted, particularly with American films dubbed into the foreign language, which seem to be the staple diet of many satellite channels.

There is, however, such a wealth of material to choose from that linguistic pearls, gems and nuggets can be relatively easily mined to provide useful and enjoyable activities. Summaries, reports, synonym work, discussions and description exercises are possibilities for exploiting drama, but it also lends itself to various predictive and speculation activities.

- Oral prediction can be of two types - 'recall' and 'pure'. In the former, a snippet is played through, rewound and then paused half-way with learners invited to recall what is said next. In the second case, the video is simply paused and learners are invited to consider what might be said. This is obviously open-ended with the video serving as a trigger simply to get students to use their imagination and to articulate their thoughts.

- More substantial speculation exercises can be built up by stopping the video at an appropriate point where tension has been created and asking pairs or small groups to write the script for the following scene.

- 'Sound-down' or 'vision out' activities are also good bases for speculation, providing a variety of opportunities for answering such questions as *Where do you think this is happening?, Can you describe the room/the characters?, What do you think they are saying?*, etc.

- Jigsaw viewing works well with drama, though it is a little difficult to organise the logistics. Ideally, you need two rooms, each equipped with video and a tape of the programme. One group watches the first 3-4 minutes while the other group watches the subsequent sequence. They then come together for pair work, sharing with each other what they have seen. Given a strong visual element, a modified form of jigsaw viewing can be achieved by working in pairs, with one person viewing and the other turned away from the screen. A sequence with no dialogue and just music is needed for this. The person who didn't see the sequence first speculates on what he/she thought happened and the other then explains what actually occurred, prompted by questions of clarification.

- Role-play is an activity where I have experienced some of my most dramatic failures, but when it is based on a short common viewing experience and well prepared, it stands a much greater chance of success than when learners are asked to perform 'cold'.

Humour

The temptation to use humour and comedy is great. If you get the right material, it can be motivating and enjoyable, with linguistic exemplars being introduced in a highly palatable form. Humour is often very visual and language is introduced implicitly into the sequences.

On the other hand, some comedy programmes are just too difficult, relying as they do for their impact on subtle puns or on a play on words. There is nothing more deadly than having to explain a joke, since it will inevitably fall flat and lose its impact. There is also the problem that some comedy programmes soon date and it can also be argued that the language and the situations in many series are too unnatural and removed from everyday experience to be of use.

But armed with clearly spoken, visually supported humour, we can develop a number of activities which go down well. Prediction work, keyword context questions, retrospective descriptions, and stress analysis are all possibilities, though often it may be best just to show the programme, let learners enjoy it and not try to graft on explicit language exercises. There is a danger sometimes of over-dissecting authentic television and nowhere is this greater than with comedy programmes.

It would be possible to continue the analysis of different television games to include such things as quiz shows, cartoons and sport, but perhaps enough has been said to make the point that there are lots of opportunities for exploiting authentic television in an interesting and effective way and that the main problem is one of an *embarass de richesses* which can only be overcome by sharing experiences with colleagues and working as a team.

Perhaps, in concluding this chapter, it ought to be stressed that the interpretations and the suggestions set out above are in no way prescriptive and certainly not exhaustive. The intention has been to point to certain selection criteria to be considered and then to share ideas for exploitation which have already been used successfully. [For further ideas on exploitation have a look at the companion book in the series, *Making the most of video.*]

CHAPTER THREE

A user's view of authentic television in schools

[This chapter has been largely contributed by Suki Heath who has taught for many years in secondary schools and developed a special interest in the exploitation of authentic television. In it, she first records some of the key findings which emerged in a large scale analysis of the use of satellites and authentic television before sharing some of the experience she has acquired as a committed user.]

Research findings

In 1988 a national survey was conducted to find out what teachers thought about authentic television, and to discover how widely it was being used. Practising language teachers were asked to complete a questionnaire giving information about how often they used authentic broadcasts, the learning outcomes they wanted, and what sort of programmes they found the most useful. Teachers who had not yet tried out authentic television were asked why they didn't use the medium, and general comments were invited from users and non-users alike. The final section of the questionnaire, completed by all respondents, was designed to give a general picture of teachers' attitudes.

It is clear that quite a lot of teachers (some 40%) have already used authentic television in some form or other, usually to teach French (90%), German (58%) or Spanish (17%). Authentic television was seen as giving a new and exciting dimension to language learning. Indeed, one of the most striking things to emerge from the survey was the almost unanimous enthusiasm for authentic television. Even in the non-user group, only 3% said that they didn't know whether it was a desirable supplement to language lessons. Everyone else agreed that it was. Likewise, the overwhelming majority (84% of users and 81% of non-users) felt that satellite television should be available to their departments. Most existing users (93%) stated that they would like to use authentic television more than they do at present. Lack of available material, inadequate access to equipment and the large amount of preparation time (not, incidentally, cost) were the most frequently quoted constraints.

Most people were confident about their ability to devise appropriate activities to exploit the material and were strongly in favour of forming working groups to share the job of selecting and preparing programmes for classroom use. Of the users, 92% wanted authentic television to be available on a self-access basis to learners.

Documentaries, advertisements and news were the most popular types of programme and were widely used to teach listening and gist comprehension, to extend vocabulary and as a stimulus for oral work. A series of trial lessons was subsequently devised to find out whether extracts from three genres could be successfully used to teach fifth form students of German.

Certain guidelines emerged from existing literature on authentic television and language acquisition. For instance, it was important not to overload pupils with too much new input. Every effort was made to provide a global context for gist

understanding before more language-specific work was attempted, and the viewing activities were designed to promote aural acuity before comprehension, thus enabling the learners to 'decipher' the new sounds before being required to understand them. In this way anxiety was reduced to a minimum. As many characteristics as possible of real life listening situations, for instance prediction, sequencing and keyword recognition, were built into the exercises.

Each experimental lesson was carried out with five groups which between them covered the entire ability range. The first of these was based on a series of eight advertisements. During the presentation phase keywords were shown and explained from an OHP. The advertisements were then shown three times, the first time for fun, and subsequently to allow pupils to complete a viewing activity. This involved putting together the appropriate halves of the sentence describing a particular product. The halves were jumbled up on the viewing sheet producing nonsense sentences like:

Felix Tomatenketchup	*ist zart und sanft. Sie belebt die Haut.*
Fenjala Jeunesse	*ist billig, zum Sparpreis.*

This was followed by a viewing activity (see p 23) in the target language in which the pupils had to decide at whom and at what age group the product was aimed, e.g. adults, children, teenagers, etc. They also had to decide on the mood of the advertisement, e.g. lively, funny, romantic, matter of fact, etc. This required them to respond actively to the input in a controlled way. The final exercise involved an exchange of opinions based on the way in which they had completed the second viewing sheet. There were major disagreements about whom the vacuum cleaner advert was aimed at! There was even disagreement about the tomato ketchup!

The second lesson dealt with two news extracts. The language used contained very little redundancy, so it was important to choose sequences in which the sound matched the picture. There was an initial presentation of key phrases with the sound turned down, in which viewers were invited to guess what was going on. In other words they had to predict. They then completed a proof marking exercise. A text, very similar to the sound track, contained words which were different from the original, for instance *Auto* instead of *Wagen*. These words had to be ticked. The pause button was used to give time, i.e. to mimic the natural redundancy that promotes comprehension. This aural acuity exercise was followed by an information gap role-play to consolidate the work.

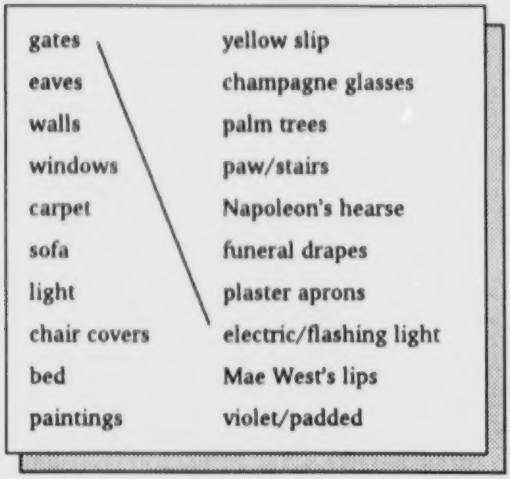
The third and final trial lesson was on the topic of fashion. The presentation was the same as for the news and was followed by a sequencing activity. Phrases which occurred in the text were presented in the wrong order and had to be numbered in the correct sequence. A simple comprehension exercise was introduced to give the pupils a sense of security, because the language was extremely difficult. In this way they could be sure that they understood before going on to a series of graded partner conversations about fashion. Here the television extract provided a springboard to an authentic communicative task in which genuine information was obtained.

VIEWING ACTIVITY ONE

You are going to watch a short video about a very unusual house which is being sold.

A. Before you watch, listen to the description of the the house.
Can you imagine what the house looks like?
Make some notes and discuss them.

B. Listen to the description again before you see the pictures.
Try to match the items on the left with the details on the right by drawing a line between them.
The first one has been done for you:



Now watch the FIRST PART of the video and look out for the items on the list.
Can you add any other details to the description of the house?

The results

The response was very positive indeed. Pupils were highly enthusiastic about the methods even though they felt the work was difficult. Very few reacted negatively. The advertisements were especially popular and most participants felt that the activities had helped them. A similar test had been administered before and after the lesson, and the post-study scores showed a marked learning gain in almost all cases. This was true right across the ability range. There was no doubt from the results that authentic television had proved an effective and desirable way of teaching fifth formers.

Satellite television: the classroom implications

Time and again, however, the questionnaires had revealed the same problem; that authentic material was in short supply. For the minority who had satellite television this was not a problem, and there is evidence that the situation is now slowly changing. For an increasing number of teachers satellite television is becoming a reality, so what impact does its installation have on language departments? Many practitioners relate stories of how, when they first acquired satellite television, they would spend hour after hour previewing programmes to find suitable material for their classes, only to find that much of it was unsuitable. There were comments of 'We just don't have the time necessary to edit and catalogue the materials we want to use'. Despite this, the commitment to using authentic programmes has remained as strong as ever. The following pages describe some practical ways, suggested by teachers, of resolving these difficulties.

It is generally agreed that it is most useful and practical to use video recordings, rather than to view live television, and that it is a mistake to try and record too much at once. **Be selective** is a message that is well worth heeding. If you are new to satellite television, remember that you don't have to record hours of material. Start with a few news broadcasts, some advertisements and, perhaps, a weather report or two. In this way you won't be overwhelmed with material. It's a myth that only the British take an animated interest in the weather! There are numerous colourful and lively weather reports in other languages and comparisons between climate, temperature and conditions around Europe provide fascinating topics of conversation and language practice.

Get a small amount of material under control in this way and accustom yourself to using it **with a specific learning outcome in mind**, then discard that recording. This is something that many teachers find difficult to do. Years of having too few resources have led us to want to keep all suitable materials for further use, but resist the urge to catalogue and keep everything and accept that it's no longer necessary!

Such an attitude requires the teacher to develop approaches to classroom exploitation of satellite television that do not involve hours of painstaking listening and transcription. It makes no sense to spend an hour preparing the lesson and then to discard the materials, but it need not take long to note down the main items of vocabulary and a standard listening grid can be invaluable for exploiting news and advertisements.

Teachers rarely have difficulty thinking of things to do with authentic television, but there is often a temptation to do too much. With such a rich source of language there are so many possibilities that we want to exploit them all! When this happens the

freshness can be lost or the learners can become overloaded with new information. Consequently it is important to know what learning outcome is desired. For instance, an extract intended to provide the stimulus for oral work need not necessarily be understood in detail. For essay preparation, or a detailed debate, on the other hand, a different approach may be appropriate.

Once you are comfortable with the organisation, recording and use of the types of television described above and have integrated them into your teaching, it is a good idea to study a programme guide and choose further broadcasts for possible classroom use. Try to find material that demonstrates activities. For instance there are short 'Tips' which give ideas and advice on a whole range of subjects. The language used is usually well supported with visual images and therefore easier for the learner to follow. Brevity is important, and three to five minutes of appropriate television can often provide enough material for several lessons.

Look for things that are likely to contain useful extracts of a few minutes each. Holiday and magazine programmes are good examples. Foreign schools' television, too, is often very useful and the broadcasts are usually short.

A summary of the main considerations which the newcomer to satellite television should bear in mind are:

- choose a limited number of short extracts to start with;
- don't attempt to do too much with the material;
- be very clear about the learning outcome that you want;
- don't try to keep and catalogue everything;
- experiment with ways of integrating television into your lessons so that it becomes part of the normal learning process.

When you are accustomed to using the medium in the ways outlined above, begin to think about using other programmes. In the meanwhile, why not record a few interesting looking items for your own use and view them at home if you have a video recorder? People who use authentic television often say that they have come across many of the most useful programmes by accident! Some of these may well be worth keeping on the library shelf or in a resource area for repeated use. In this case the preparation of materials might well be done in more detail. Teachers are often concerned about whether copyright regulations allow this, but in fact there is no problem. Present copyright law allows television programmes to be recorded, kept and copied provided this is done for educational purposes. Certain satellite channels require viewers to pay a subscription charge. The viewing guides give details of these.

Recording and cataloguing programmes

Amongst the vast number of available programmes, certain items are sure to be particularly interesting, relevant and useful. The content may be such that it seems well worth spending the time to take down a transcript and prepare detailed materials to exploit the television extract. In this case it is helpful if there is provision for recordings to be kept and catalogued. Just as it would be wrong to assume that all recordings need

to be kept and catalogued with support materials prepared in minute detail, so it is a pity not to take the trouble to do this occasionally with selected programmes. Indeed, for television that is to be used on a self-access basis it is important to have adequate accompanying work - and helpsheets, although these need not necessarily take a long time to prepare. This is where a consortium approach can offer a practical and stimulating solution to the problem of finding time and energy to develop materials. There are numerous ways in which this can be organised, but one of the most successful involves each member of the group having satellite reception equipment. On a weekly, fortnightly or even monthly basis the participants agree to record a number of programmes. An arrangement is then made for one or more people to preview specific items and to prepare materials as appropriate. It is important for practitioners to be realistic about how much time they can spend on this. Classroom teachers in secondary schools are under considerable time pressure, but a carefully organised strategy for the exploitation of satellite television in this way can breathe new life into tired linguists as they work together to explore the vast array of new possibilities!

To summarise, satellite television programmes for teaching purposes fall into two categories:

- Topical, ephemeral items that can be quickly prepared, integrated into existing schemes of work but discarded after use.
- Items with lasting value which are prepared in greater detail and kept for repeated use. These will need to be catalogued.

The way forward

Flexible learning, or supported self-study, is becoming increasingly popular, and carefully prepared extracts of authentic television can play a key role in the establishment of such schemes. The wide choice of topics available means that students are likely to find something that appeals. This ensures the maximum personal response to the materials which in turn enhances the learning process.

An invaluable tool in the creation of such resource bases is the micro-computer. Numerous authoring programs exist which allow the teacher to type in a text for the learner to manipulate in different ways. For example, part of the text from a television extract can be entered. The student watches the broadcast and completes a viewing activity. He or she then turns to the computer and calls up the appropriate text. The computer will offer a menu of different activities from which to choose. Depending on the program, these might typically include a gap text, a sequencing exercise, a matching or pairing activity or a memory game. The learner can choose a level of difficulty and can always check the answers and go back to the original text. In this way new language can be consolidated at the pupil's own pace.

Perhaps the most attractive characteristic of satellite television is the sheer range of possibilities that it affords the busy teacher. Infinitely adaptable, it can be used in whatever way is most appropriate from a teacher-centred, lockstep approach to a carousel of activities or a resource base. Its capacity for stimulating interest and enthusiasm in learners is well documented, and there is no doubt that the visual image, given judiciously selected material, contributes significantly to foreign language learning.

CHAPTER FOUR

An eye to the future

It is always dangerous to indulge in speculation, particularly when the speculation is linked to an area that is developing as rapidly as satellite technology. It is clear, however, that the television menu available to us as language teachers over the next decade is going to expand considerably. More and more satellite channels are planned, and cable networks of one sort or another are growing apace. Within a relatively short space of time every school is likely to have its satellite systems, enabling us to obtain at the push of a button a selection of channels.

The major European languages are already available and the number of channels carrying French, German, Spanish, Italian and English will multiply. Even less common languages such as Japanese, Dutch or Greek are becoming available. We will soon have access to a vast variety of 'authentic' material which is a resource we simply cannot and certainly should not ignore.

It will increase the range of possibilities for 'formal', controlled classroom exploitation but also open up opportunities for self-access viewing and individual or small group project work. In their homes, learners are ever more likely to have access to foreign television, a fact which has already had a noticeable impact on those regions of Europe that can receive each other's television signals. Having German television in southern Denmark or Alsace, Spanish in the south of France, Italian in Austria, English in Belgium has meant that a large number of learners have often spent more time exposed to the foreign language in their homes than at school.

With the growth and ready availability of relatively inexpensive satellites, we are moving to an era where an international viewing community could become the norm, with tremendous, painlessly acquired benefits to those who choose to watch the equivalent of *East Enders* in French or their football in Italian. By virtue of the fact that foreign television is right there in our lounges, the atmosphere in our homes is set to

become more international with obvious 'spin-off' benefits in terms of motivation and improvement of listening skills for those of us engaged in language training. New developments in satellite technology offer us some real opportunities which we should exploit to the full.

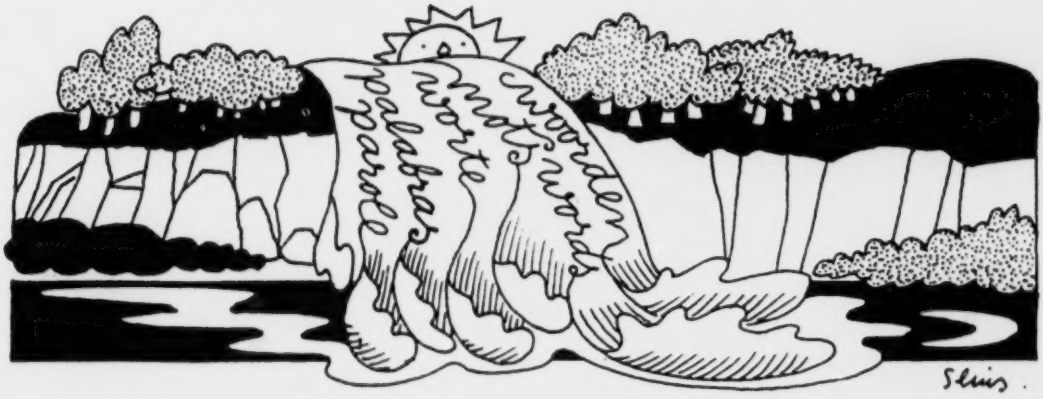
But it is not only in the downloading and viewing of foreign television signals that potential for significant changes is lurking. The technology exists and is being further developed for a more learner-involved use of satellites. Smaller, more specific 'audiences' can be served and more interactive exploitation planned.

The breaking-down of international barriers is a major feature of the political scene as we head for the next century. Travel across boundaries is commonplace. Many people will spend much of their working life in other countries. Currency reform, tax laws, the application of common standards, the power shifts towards international political bodies, the growth of multi-national firms and so on are contributing to the rapidly changing scene. Increasingly we will be rubbing shoulders with 'foreigners'; working alongside them, spending our leisure time in the same places and sharing the same personal concerns. Education is changing and is going to have to change radically to cope with these mega trends. Curricula will be harmonised, as will qualifications. Students will be taking modular degrees with credits obtained in different countries. Teachers will have increasing contacts with their counterparts abroad and many will find themselves working for periods of time in other countries. The seeds for the creation of an international learning community have already been sown.

And language is at the heart of all this activity. Only if we can communicate easily and effectively with each other will the fruits of cooperation be realised. To date we have, in general, in the language teaching profession been reacting (sometimes reluctantly) to all that is happening. Language is the 'Achilles Heel' of IntraEuropean developments. The inescapable minutiae of daily classroom routine has left many of us slightly bemused by the new climate for language learning; aware that we are in the grip of major changes, but frustrated because we cannot really capitalise on them. No doubt there will be many more frustrations along the way, but there has never been a better time for promoting a vision, for putting our heads above the parapet and leading rather than servicing change.

One of the agents for change which could allow us to be more proactive in moving towards the creation of a workable international learning community is the new generation of educational satellites. The most notable example is *Olympus*. This is currently being used for a three-year experiment providing educational organisations with free air-time to develop international learning schemes. The *Olympus* satellite was financed and launched by the European Space Agency and the educational side of the satellite is managed by a user group which has chosen to call itself *'Eurostep'* and which is based in Leyden, Holland.

As curricula move inexorably towards topic-based, communicative activities, we need to find novel ways to make these communication targets credible. As learners become more mature, they need to feel that we are providing them with realistic tasks that are relevant, that match their level of sophistication and that emanate from the real world and the concerns of their daily lives.



Some *Olympus* providers are developing programmes to help language teachers in various countries combat the Niagara effect. They are selecting, editing and re-transmitting material, such as news items, backed up by worksheets and support texts. The main providers of this type of material are coordinated by Peter Dyson of the Language Teaching Centre at the University of Oxford. Groups of teachers are working on the presentation and re-broadcasting of material in French, German, Italian, Spanish and Russian. Others are producing programmes on narrow specialist themes that could not be justified in terms of the audience generated within a single country, but which can be made when given a pan-European distribution. Both of these types of activity are valuable and will no doubt continue and expand.

But *Olympus* and similar planned satellites also offer the potential for more innovative schemes. Alongside the 'receive only' format, there are possibilities for other activities which involve learners (and teachers) more directly. Here are a few insights into what is already technically feasible and what, given the will, the resources, the stamina and the effective management of innovation, could become a valuable integral part of the international language learning scene.

Receive and transmit

In this mode, groups of learners are put into direct contact with each other. They see and hear live. Given this technical facility a wealth of opportunities are presented. At a basic level students from comparable institutions in different countries can ask and answer questions of each other; this could be done spontaneously, but would probably be of more linguistic value if it is prepared. The sort of discussions which come to mind are completely in line with modern communicative syllabuses. Typical topics could include life-styles, houses, sports, media habits, shopping, or likes and dislikes.

One example of focus amongst many could be an expansion of the existing 'Our Europe' scheme where groups of pupils/students look critically at each other's

environment. It would be perfectly possible for slides, photographs or locally shot video to be produced by groups to reinforce their 'commentary'. After or during a presentation of their environment (school, high street, leisure facilities, etc), the originators could be asked questions of clarification and receive comments from their satellite partners.

This type of activity would clearly be of immense use to those directly involved, but, importantly, it would also be of interest and relevance to a large 'view-in' audience across Europe who would learn at first hand how youngsters see their environment and perhaps be stimulated to prepare similar reports on their own towns.

At an entirely different level, 'receive and transmit' could be used by professional or specialist groups. Engineering students could compare equipment and procedures, architects could work on joint design concepts, business students could discuss sales campaigns - the possibilities are endless.

Satellite receive with individual response

This mode of use envisages a situation where viewers follow a television programme alone at home and are then encouraged to respond to what they have seen. The response could be immediate, using the telephone or fax, or could be over an extended length of time by post.

At one extreme, 'SRIR' could be incorporated into an educational structure, forming a sort of European Open University/Tech. Students would be set specific tasks generated by the satellite programmes and these tasks would be monitored and responded to by a central coordinating agency. It would be possible to see this mode adopted for European Dip. TEFL or even Masters courses developed primarily in the self-learn mode. This concept has been given further credibility by the current interest in accumulated modular study based on credit transfer which is being supported by the EEC, and which would appear to present a more viable format for language-related courses than for those in many other disciplines.

Language training could also be delivered in this mode as a facilitator for other studies. Given, for instance, the increasing mobility across educational frontiers, it is likely that the number of continental Europeans studying in other countries will increase significantly and there is obvious scope for 'pre-sessional' type training via satellite. Such courses would be shorter in duration and scope than diploma, degree or masters courses, but SRIR could have a big role to play. Themes such as study skills, making the most of tutorials, seminar participation, the preparation of dissertations, college life, living in host families or country related customs are obvious candidates for this type of treatment.

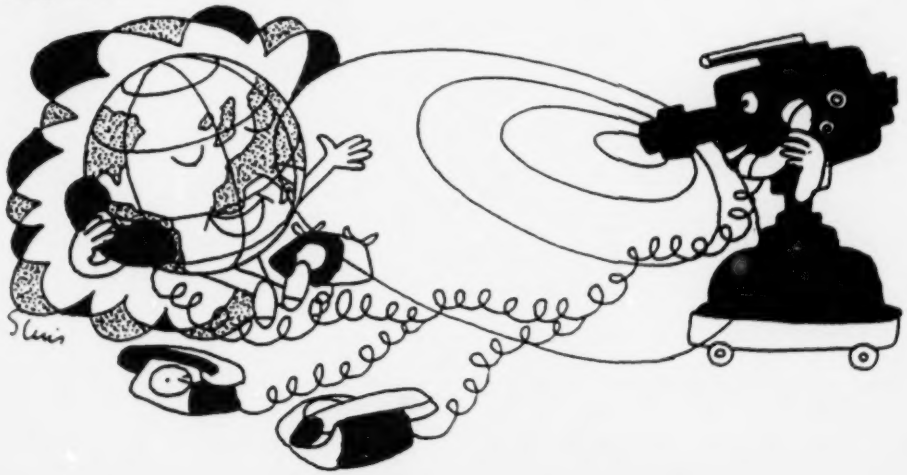
At the other extreme, the SRIR mode could be used in a less formal, more ad hoc way for 'one-off' programmes. These might be lighter and less academic in content but nevertheless valuable. A series, for instance, on 'Contemporary Britain' could appeal to a wide audience including older school-children, college students and self-learners motivated by nothing more than an interest in Britain. For Britain, read France, Greece or Portugal.

The crucial factor in all of these is that viewers are encouraged to react and to enter into some form of dialogue with the programme producers; whether as part of a formal course structure or as an informal 'interested party'. The responses can be analysed and answered either individually or generally in subsequent satellite transmissions. In this way, viewers are made to feel part of the process, thus overcoming the sense of

isolation and lack of contact which are unfortunate characteristics of many existing educational television initiatives.

Receive with live audio conferencing

This sense of learner/user identification is also a key feature in the third mode suggested as being viable for the exploitation of satellite technology. It would function in much the same way as the new format *Any answers* on BBC radio, where listeners telephone in live with their comments, but with a European dimension and a language learning focus.



In this mode a theme is presented in the form of a television programme. There are no obvious limitations on the type of theme - it could be informational, of a general or specialist nature or deliberately linguistic. The essence is that a number of institutions are linked up in an audio network and during or following the viewing of the main programme they take part in a debate moderated live from the TV studio. Questions of clarification can be asked, points of issue raised, comments given, opinions expressed and aspects of the presentation discussed.

In a programme on the approach of different European governments towards small firms, for instance, a number of business schools across Europe could be linked up. Participants could be invited to ask questions about some of the language used, to compare the policies of their governments, to comment on the success or otherwise of different initiatives and to discuss suggestions for alternative strategies.

A format such as this would obviously be of considerable use and interest to those directly involved, but it could generate a large listening audience for whom the viewing experience would be almost equally valuable. As with SRIR discussed above, it could be used as an integral part of a formal course of studies, as support for on-going courses or on a 'one-off' basis for general interest. It would be equally applicable to schools, to higher education or, with slight modifications, to home learners.

Receive with computer network response

A little further away in terms of immediate applicability, but nevertheless realistic in terms of the available technology, is the concept of satellite broadcasts stimulating a response via computer. Experiments with international computer link-ups between schools, notably those conducted under the auspices of the Council of Europe have already proved the possibility and indicated the potential. Groups of learners from different countries have been linked via computer and given problems to solve and tasks to complete. The notion of accessing data banks internationally is also well established, as are systems used on a daily basis by international firms, particularly in the world of finance and banking. It is, therefore, only a relatively short step to apply such developments to promoting feed-back from satellite transmissions.

Once the link is in place, there are a number of possibilities that can be explored for the teaching of languages and assorted contextual studies. Learners could be given access to back-up material which they can download and which helps them at the level of basic comprehension. This could take the form of transcripts, explanations of key words or phrases, definitions of acronyms, clarification of specialist terms or re-presentation of salient information. Effectively, it would be for the user to decide what he/she needed to know and to obtain the information, clarification or explanation. This could, of course, be applied to those learning alone or be offered as a facility to be exploited by pairs or small groups who negotiate with each other before addressing the computer.

Another possibility would be to devise linguistic activities or information reinforcement activities which are specifically linked to the satellite programme. In this case, a resource bank is created based on such accepted activities as predictions, multiple choice questions, gap-fill, use of keywords, sentence completion, jigsaw viewing, word bingos, etc. The activities would be accessed via a menu allowing learners to choose what they wish to practise and the level of difficulty. The material in this case would most likely be self-correcting.

It is, however, also possible, though obviously more costly in terms of time, to provide learners with a mail-box service. In this case, they complete activities which can be more complex, more open-ended and for which they receive an individual response.

A further possibility would be to use a dedicated international network to gather opinions and to obtain immediate feed-back which is built into the structure of the programme. Learners would simply have to feed back to the central computer basic reactions of the yes/no type and these reactions would be immediately processed and available for display or interpretation. This would work at the simple level of answering questions or at a more complex level of gathering opinions on the subject matter of the satellite transmission.

Any of the uses outlined above would provide immensely valuable linguistic support, would increase motivation and, crucially, build up a sense of participation which is necessary if the new technologies are to be humanised and not seen as impersonal machines.

CHAPTER FIVE

Interactive video

by Michael Picciotto

[This article is a revised and updated version of a previous article and is reproduced by kind permission of the National Council for Educational Technology (NCET), Coventry.]

What is interactive video?

Two technologies - the videodisc and the personal computer - have developed simultaneously and along converging tracks to foster the new and exotic technology of interactive video (IV).

The hybrid nature of this new medium exploits the properties of the videodisc and combines its benefits with the processing power of the PC providing the educationalist or trainer with an advanced technological tool for the delivery of educational material.

The essential elements of an interactive video system are: a micro-computer, a video player, a monitor and an interface to synchronise the signals from the player and the computer.

Such a system then requires: a videodisc containing the audio-visual material to be used by the teaching programme (sometimes called the courseware), and software to control the programme.

What are the benefits?

From almost the earliest days of the interactive video medium, a number of linguists, teachers, trainers, computer scientists and educational software producers have felt that it had the potential to provide something of real value for the language learner.

This feeling can easily be understood, by considering the limitations and benefits of computer assisted learning and video for language learners.

Computer assisted learning (CAL) and video have well known advantages. For CAL, these are often said to include individualisation, motivation, self-pacing, patience, a monitoring capability and consistency. Video can provide authenticity, skillful presentation and dramatisation and access to otherwise inaccessible places and experiences.

Both CAL and video have disadvantages, however. CAL can be extremely rigid and can quickly lose its novelty appeal. Its strengths - analysis and processing of text and numbers - are unsuited to modern communicative methodologies in the teaching of languages. It is also known that merely watching video can be passive and unproductive.

Well designed interactive video can combine the advantages of both CAL and video while largely overcoming their disadvantages. For language learning the high quality video and audio available from videodiscs can supply the vital elements which make it possible to design programs which can actually teach language, while computer control

over this video and audio material means that learners are required to interact positively with the material instead of behaving as passive observers.

For language learning, the medium allows very quick and precise display of video sequences as part of a computer controlled learning program. Well designed programs can also allow learners a much higher degree of choice and control over their own learning than is normally possible in this subject area. Evaluations of existing IV programs have shown learner control to be a powerful and motivating factor in the success of these programs.

The Nebraska scale

IV systems are often classified by refe ence to the Nebraska Scale as follows:

Level 1
A videodisc player controlled by a remote hand-held controller. This allows functions such as normal forward and reverse play, fast forward and reverse, scan forward and reverse, slow motion forward and reverse, stepping one frame at a time in either direction, search for specific frame numbers, and independent control of audio channels.

Level 2
A videodisc player with EPROM cartridge containing the controlling program. This arrangement is similar to the games which can be bought for home computers and games consoles with slot-in cartridges. Effectively it means that the videodisc player itself runs the computer program as well as the videodisc. In this arrangement, the communication between the user and the workstation is generally by means of a remote keypad, and users are usually asked to signal decisions by entering numbers in response to on-screen questions. Generally, only programs of restricted size can be run on a level 2 system.

Level 3
A system containing a video player (disc or tape) controlled by a separate micro-computer. This is the type of system which really begins to tap the potential of the medium, as a specially written software program, restricted in size only by the storage capacity of the floppy or hard disc drives available, can provide learning opportunities of great flexibility and responsiveness.

How it works

The physical elements of an IV system are subject to all the varying standards that abound in the computing and video industries. Compatibility is a constant headache for IV practitioners and potential users and many a costly mistake has been made.

However, as time has gone by, IV programs have been developed on the computer systems of the BBC micro or the IBM PC, with the latter favoured in business and industry while the former, due to its presence in many schools and the Domesday project, is widely used in education.

Regrettably for those schools which have invested in Domesday systems, it is becoming ever clearer that IV configurations based on IBM compatible micro-computers

have become the de facto standard and that there is now unlikely to be significant further commercial development of IV programs for BBC based systems.

It is now possible to define a typical IV configuration as consisting of an IBM PC or compatible, an interface (or overlay system), a laservision player, a display screen, a videodisc and an optional printer.

The hub of the system is the computer which controls the function of the laservision player and sends output from player and the computer itself to the screen.

Input from the user can be made in a variety of ways. Usually the input device is a keyboard, but response to a screen prompt could come from any type of input device such as a mouse or touch screen, whichever is deemed appropriate.

The standard computer monitor cannot display analogue video pictures so a special bi-standard screen has to be used which is capable of accepting both analogue (video) and digital (computer) signals.

THE VIDEODISC

The videodisc contains the video footage and other non-volatile (i.e permanently recorded) display material. The 30 cm diameter is the same as that of an audio LP, however, apart from being double-sided there are no other similarities. The gleaming mirror finish with its strikingly beautiful rainbox reflections is the most immediate difference, but it is the structure of the recorded information which sets the videodisc aside.

Each side of the videodisc has around 14 billion tiny indentations arranged in 54,000 circular tracks. Each of these tracks holds one frame of video. Since each second of moving video footage is made up of 25 frames, each side of a videodisc can hold up to 36 minutes of moving footage. Alternatively, the videodisc can be used to hold up to 54,000 separate still frames, or a mixture of still frames and video footage, and there is still enough room for stereo or dual track sound or hundreds of megabytes (over 320,000K per disc side) of computer data.

The disc is protected from small scratches and fingerprints by a perspex-like surface 1.22mm thick. Each of the 54,000 frames can be individually found and displayed almost instantaneously, any part of a moving sequence can be selected with pin-point accuracy and a perfectly still, judder-free still picture can be displayed for as long as desired.

THE VIDEODISC PLAYER

The device which has the facilities to exploit the videodisc is the laservision player. The relationship between the player and the videodisc can be likened to that of a videotape player and a videotape, but with much more power and flexibility. Information sealed inside the videodisc is optically read by a laser beam concentrated to a point 60 times finer than a gramophone stylus which reproduces broadcast quality pictures with stereo or two-channel sound.

THE COMPUTER

The computer is linked to the laservision player by means of two cables. One instructs the player on how to play the videodisc and the other carries the picture to the computer for further manipulation with text/graphics or direct to the display screen.

Once suitable video material is available on disc and the physical elements of the system have been assembled, the most important part of the system - the computer software - is ready to assume command.

Programming an IV configuration usually takes one of two routes: authoring or professional programming. Authoring software is essentially used to assist non-computer literate subject experts in providing a framework for creating educational material using video and textual information.

Professional programming involves a computer programmer using a computer language such as Pascal, 'C' or Prolog to implement an educational program conceived by an instructional designer.

The advantages of authoring are the disadvantages of professional programming and vice versa.

Authoring is based on simple computer commands for, typically, question and answer sessions, response analysis and testing. The benefit is that the subject expert has control over the developing software. The disadvantages are: limited computational facilities and graphics, slower execution and lengthy development times for courseware. A professional programmer can utilise the computer facilities to deliver a high performance system in an efficient and effective way.

Another specific disadvantage of using authoring languages to design language learning resources is that nearly all authoring software has been designed to provide the routines and capabilities which are most commonly required by the designers of computer-based training.

These facilities generally include easily designed multiple-choice question routines, tutorial and drill functions and response analysis which are designed for text input, knowledge rather than skills transfer and closed-ended questions as a means of testing. In brief, they are by no means designed to provide the facilities likely to be of interest to language teachers who wish to design resources in keeping with modern communicative approaches.

Uses of interactive video

In industry, interactive video is used mostly for training and for point of sale applications.

The other main uses have been in education and for archiving and public information. For educational and training purposes the most commonly understood ways of using the technology involve a 'branching' or problem-solving approach. As in a computer simulation, users can be presented with scenarios and choices leading to various 'branching' paths through a learning programme. In this way it is possible to present users with a follow-up scenario which illustrates the consequences of decisions.

Some educational IV programs

There are currently very few educational IV programs available in the UK. The economics of production are such that the educational market cannot easily sustain the costs involved. As a result, the programs which have been developed have been sponsored by various institutions and are not generally commercially available.

LANGUAGE PROGRAMS

Siville

Developed by a team from Shropshire LEA, *Siville* is part of the Interactive Video in Schools (IVIS) project, supported by CET and DTI. Courseware based on a videodisc produced for the project is running in selected schools. The courseware takes the form of a simulation set in a French town, in which users are given shopping tasks of varying difficulty and must makes decisions and responses to multiple choice questions.

North West Educational Computing Project

The North West Educational Computing Project, implemented by a team working at Lancashire Polytechnic, was supported by IBM United Kingdom Trust as one of the IBM PC in Schools projects. Courseware was produced on an experimental basis to exploit the BBC's *Ensemble* videodisc, and more highly developed materials were then designed in French and German using two videodiscs produced specially for the project. The aim of the courseware is to use the medium to teach oral language skills.

Brighton Polytechnic

Brighton Polytechnic have done some experimental work on *Bid For Power*, *Treasures of the British Crown* and also on a videodisc version of the BBC's *Dès le Début*. Neither disc nor programs are commercially available.

Ensemble

This is not an interactive video program but the only off-the-shelf videodisc commercially available in the UK containing spoken foreign language, and as such has been used by a number of teams for experimental work. The *Ensemble* materials are now very dated, however, and were originally intended for linear viewing as videotape or broadcast TV.

COMMERCIALLY AVAILABLE PROGRAMS

Towards the end of 1989, two IV language courses produced in the United Kingdom reached the market. They are *The European Connection* and *Expodisc Spanish*. It is perhaps significant that both these courses are designed to teach business language to adults, reflecting once again the fact that public sector education is not yet seen as a viable market by commercial developers.

The European Connection

The European Connection is a BBC English - Vektor co-production with support from IBM United Kingdom Limited, and is designed to answer the needs of business people everywhere who have to use English in their international dealings.

The course makes use of two single-sided videodiscs which were produced specifically for this purpose. The material offers examples of the authentic English used everyday in the business world. It enables users to familiarise themselves with both British and

American English, as well as that of non-native speakers, such as German, Japanese, Chinese, Dutch, Spanish, French and Italian.

An important feature of *The European Connection* is that it contains both scripted and authentic English.

It focuses on a business-centred drama (shot on location in several European cities), dealing with the efforts of a UK based advertising agency to attract Japanese companies into Europe. The carefully scripted story includes all the essential language items, including specialised words and phrases, and idioms. This section also offers help with areas of special interest to learners of business English - e.g. making presentations and negotiating in English.

Authentic English is portrayed in a series of real-life interviews with 18 prominent members of the European business community, all offering views on Europe in the 1990s. This series is integrated into the drama and offers a wealth of relevant information and opinion for the business community as it faces a new European situation.

The course includes a pronouncing dictionary and role models in both British and American English, allowing for immediate comparison between the two. The dictionary identifies those words from the disc which occur regularly in a business context, giving native language equivalents and demonstrating correct British and American pronounciations.

The role models also speak directly to camera and deal with both essential phrases and key vocabulary items.

There are interactive telephone exercises, dealing specifically with telephone language. They consist partly of real telephone calls and partly as role model demonstrations of key phrases.

The course features a number of working methods from which individual learners can select items to suit their own preferred learning style. The support available from subtitles, information and role model and pronouncing dictionary means that the course is suitable for learners at all levels of Business English. Options include:

Simple play-back of a drama scene, interview or telephone conversation.

Play-back in paused mode, where a scene, interview or telephone conversation automatically pauses at the end of each phrase. The programme technology used to control the videodisc makes it possible for each phrase to be repeated immediately, as often as required, and with any combination of subtitles: in English, in the user's native language, with both sets of subtitles or with none. It is also possible to switch the video and audio on and off independently, allowing separate and combined study of the elements of verbal and visual communication.

The European Connection received a special award for innovation sponsored by Sony in the British Interactive Video Association's annual competition in October 1989.

Expodisc Spanish

The *Expodisc* has been produced as a collaboration between Ealing and Buckinghamshire Colleges.

Expodisc Spanish is an interactive video package aimed at actual or potential exporters to Spain or Spanish America, and which is also suitable for any others with

some knowledge (however small) of the language who wish to use it in the business context. Although it is mainly a language learning course, there is a large amount of background information on the country and about exporting - in total there are over 1600 text screens incorporating more than 90,000 words.

The courseware consists of a videodisc, accompanying software, a user guide and a book, *ExpoSpanish*. The book acts as reference material for the interactive video and also can be used as a stand-alone text book.

The starting point of the course is that the business person needs to be able to work with the language that he or she will actually encounter in the country of the target language. It is often difficult to work with material of such richness and complexity when dealing with near-beginners. Interactive video offers techniques new to language learning which can make this possible. These techniques differ profoundly from the majority of Computer Assisted Language Learning (CALL) packages, in that the required methodology can be the dominant feature, rather than, as in so many cases, the facilities offered by the computer. Thus a communicative approach can be followed which is in tune with current language teaching methodology.

The facilities offered by *Expodisc Spanish* include the following: a video sequence can be played in a linear form, from start to end; it can be stopped and started with perfect freeze-frame; one touch of a key gives an instant replay of the last five seconds; subtitles can be put on the screen at will - either Spanish or English or both together; any video sequence can be exited at any time, to escape to the end of the sequence or to leave the current module, or, indeed, the whole course; a 'Help' facility gives instant access to background information, including the Export Database, and to linguistic help routines of explanations, definitions, expansions, examples and exercises which vary in length and complexity; a 'notepad' facility enables the user to make notes on the work needing to be done, etc., with this and the current position and status being remembered when leaving the course, and available next time the learner logs on. There are no multiple choices and no testing, no programmed learning. The courseware is very open, with the learner mapping his or her own route through the material and gaining a sense of progress by means of the levels of help required. The modular structure ensures that the learner can either 'dip in and out' or follow the story-line, which involves identifying and contacting a target company for sales of your product, and accompanying your boss on a sales trip to Madrid.

The involvement and interaction of the learner with the learning process, and his/her control over that process, means that this interactive video course can offer a high degree of flexibility and can produce significantly higher results in many aspects than 'traditional' delivery methods.

Some other interactive exercises

Even though the number of foreign language programmes produced to date is relatively small, it is clear that a large number to tasks can be readily transferred to the interactive medium. Indeed, it is proving to be immensely flexible, and summarised below are a few ideas which have been shown to work well in developing students' linguistic skills.

- Multiple choice or true/false questions: Viewers are set questions by the computer, which then triggers off a sequence of video, pauses it in the appropriate place and invites responses. This activity is particularly useful where

learners are given a 'stepped response', i.e. when there are different reactions giving different degrees of help depending on whether the mistake is made the first, second or third time.

- Word or phrase bingo: A number of phrases or words are put up in advance of the student viewing a sequence. Some of these appear in the programme and some do not. After studying the clip the learner is invited to signal those s/he has heard.

- Frequency grids: Key words are presented to the student before viewing and the learning task is to note on a screen grid how many times these words appear in a particular sequence.

- Computer graphic games: There are obviously many possibilities for the adaptation of 'games'. One example is to show on the screen a town which has, for instance, been used as part of a 'giving directions' sequence in a *Syndicat d'Initiative*. Students are then asked to 'drive' a blip around the map following the same directions as those that appeared in the TV element. If the second on the right, rather than the first on the left is taken, an error noise is sounded.

- Sequencing: This is quite a demanding activity where phrases given in advance have to be sorted into the order in which they subsequently appeared in the programme.

- Prediction: The computer simply pauses the flow of the TV programme and the student is invited to predict what will happen next, or what will be said next. This can either be 'recall' prediction where an exchange has already been viewed and the student has to answer from memory, or 'pure' prediction where s/he has to use clues to make an intelligent guess as to what will be said or what will happen.

- Word definitions: As the description implies, a number of definitions of key words or phrases are given from which the student has to select the correct one based on his or her memory of the context in which they appeared in the programme.

- Translation or re-translation: Following the viewing of a short clip, phrases from the programme are presented to the student on the interactive screen. These phrases then have be translated from or into L1 either using the key-board or, less demanding, with the learner selecting from a number of alternatives.

- File completion: Bar charts or similar graphic representations are presented. Based on the learner's comprehension of the programme, relevant data and figures then have to be filled in. As always, the computer monitors and responds to the accuracy (or otherwise) of the input.

- Matching: This can be done in various ways. Students can be asked, for instance, to associate certain statements with characters in the TV programme. Alternatively then they can be presented with lists of jumbled questions and

answers which they have to match correctly to reconstruct a sequence from the programme.

- Gap-fill: An activity best done where the students are selecting from a jumbled list of possibilities rather than typing in answers directly. This then avoids the problem of spelling, particularly important at lower levels.

- Key-word context questions: Students are given a key word in advance of viewing a sequence. The video is then stopped at a point just after the word has appeared and the student has to give the full phrase or sentence with which the word is associated.

- Synonym work: Here learners are invited to select alternative ways in which a particular phrase, question or comment might have been expressed.

The above list is by no means exhaustive, but it serves to indicate the types of activity and the variety that can be generated using interactive video. Relatively few studies have focused on this emerging technology, but such information that does exist testifies to the popularity and the effectiveness of the medium. (see, for instance, 'Interactive Video: what the students say', in *Language Training*, vol. 8, issue 1, published by Language Training Services). Here Cathy Watts proves significant learning gains in terms of comprehension and vocabulary acquisition with students lifting their achievement by some 30%. Additionally, it appears that students are more motivated to react to interactive video programmes both orally and in comprehension activities than with more traditional modes of learning.

IV in schools - the current picture

So far very few schools have interactive video systems, and this is not surprising considering the costs involved. A good many local authorities have taken advantage of the special offers available on *Domesday* systems; up to 150 schools are likely to benefit from being involved in the DTI-backed Interactive Video in Schools Project; and four schools in the North West of England have received interactive video workstations as part of their involvement in IBM's PC in Schools project.

More recently, lower-cost workstations have been available to education. Even at these prices, however, the value of the technology to schools will rest crucially on the availability of a range of quality educational software. The development costs of IV programs are so high that the 'hit or miss' approach to the development of educational computer software - perhaps one good program for every ten bad ones - cannot possibly be afforded.

User friendliness

Interactive video is at the forefront of technological innovation: this does not mean that it is difficult to use. Indeed, a vital characteristic of a well-designed IV program is that it is very friendly. Experience in the NWECP trials schools was that the IV programs were paradoxically much easier to use than the commercial software - word processors, etc - which were supplied for familiarisation and training purposes.

Experience from the commercial world suggests that the public can find the use of IV information programs easier and less threatening than interaction with human beings!

Costs

HARDWARE

The cost of an IBM-based interactive videodisc workstation is currently around £4,500, and BBC systems can be put together for £3,000.

BBC or Nimbus-based *Domesday* systems are priced in the region of £4,500, although subsidised systems have been available to education at under £3000 and recently it has been possible to obtain 'remaindered' *Domesday* systems much more cheaply.

Complete interactive videotape systems based on a BBC computer are available at around £2,250.

However, manufacturers are aware of the financial situation in public sector education and a number of integrated IBM standard interactive video workstations are now available from Microvitec, for example, at a total cost of £3000 or less to education. In real terms, this cost is no more than the earliest generation of video cassette recorders fifteen or so years ago. An additional advantage will be that schools with this equipment will be able to consider making use of IV courseware which has been produced for the adult training market, a good deal of which may have considerable relevance to TVEI and other vocationally orientated courses.

VIDEO

Once video material has been shot and edited to professional standards (a process which has been estimated as costing £1000-2000 per minute of finished video!), the cost for 10 videodiscs would be around £3500, falling dramatically as the number of replications increases. It is possible to buy off-the-shelf videodiscs for as little as £10. However, the possibility of finding video material suitable for a particular educational purpose already pressed on a commercially available videodisc is extremely remote. Many developers use such discs for experimental purposes, however.

COURSEWARE DEVELOPMENT

Software costs vary depending on whether you adopt authoring or professional programming.

The outlay for professional programming depends on how big and how complicated the proposed design is. The initial outlay for authoring will be much cheaper, anywhere between £300-£3000 for the tools to develop courseware with. The hidden costs with authoring are the time and effort by the subject expert, first in mastering the authoring commands and secondly developing the course.

The estimated time necessary to produce one hour of IV courseware can be anywhere from 20 to 200 hours of a tutor's time.

In 1986, the National Interactive Video Centre estimated the average cost of developing an IV course from scratch at £80,000-£85,000 and, depending on the complexity of the course to be produced, it is likely that this would be considered a very low figure nowadays.

OFF-THE-SHELF COURSEWARE

It is clear that at present the development of IV educational courseware cannot be done unless large scale public funding becomes available, so schools with IV hardware will be looking to purchase IV courses off the shelf, at a typical price of around £300-£400 per package. Although these costs may appear high to schools, they are much lower than prices commonly charged for interactive courses in the outside world and, it must be said, cannot offer an acceptable economic return to IV developers in view of the small size of the educational market.

DIY INTERACTIVE VIDEO

In his report of 1983, John Duke states clearly that IV should not be regarded as 'a cottage industry', and it is clear that only properly funded developments using up-to-date equipment and full-time designers can deliver high quality materials.

However, interactive systems using videotape rather than videodiscs are sometimes considered as a low-cost alternative.

There are no commercially produced IV courseware packages on tape with relevance to language learning in schools. It is possible, however, to buy IV systems based on lower-cost components: BBC micro-computer, VHS video recorder, interface and screen. The authoring language *Microtext* is obtainable on a ROM chip for the BBC. If you already own the computer and video recorder, the add-on costs of such a system could be affordable.

Before trying this DIY approach, however, some points should be considered: the copyright issue regarding off-air recording or commercially purchased language-learning videotapes, the time taken to master the authoring or programming and in the design of courseware and finally the fact that the limitations of tape-based systems, notably in speed and accuracy, mean that such a system cannot come close to the true potential of interactive video.

The shape of things to come

It is probably clear from the foregoing that the main factor which has inhibited the greater take-up of interactive video is cost: cost of the hardware, cost of audio-visual production, cost of design and software development and, as a result, cost of the courseware packages to the purchaser.

These high costs have meant that interactive video has largely remained a medium for use by large companies. Commercially available programmes sell in small quantities at high prices in order to recoup their production costs. It is certainly true that IV is almost unknown in education and completely unknown to the domestic user.

Nevertheless, as understanding grows amongst developers and users of the potential offered by the convergence of video and computing, new developments based on compact disc technology are poised to deliver all the power of interactive video at a much more reasonable cost.

CD-ROM

CD-ROM drives are now available as storage devices for personal computers. CD-ROM discs are similar in type to CD audio discs, the difference being that the information is read by a computer instead of being converted into audio signals. Generally speaking, CD-ROM is used mainly for the storage and display of fixed information since it is particularly well suited to the permanent storage of large amounts of digital information. One 12 cm disc is capable of containing 600 megabytes of information - equivalent to 1500 floppy discs, or around 250,000 pages of text.

Actually, a CD-ROM disc is designed to store any information which can be encoded digitally - text, graphics, video or audio. It is, however, 'expensive' in digital storage terms to encode video on a digital optical disc.

CD-I

The intention to develop CD-I (Compact Disc Interactive) was made jointly by Philips and Sony in 1986. Development systems are already in use, and consumer players should be available very shortly. The capacity of the CD-I disc offers a combination of video, many hours of audio at varying standards, graphics, still photographs and text. The disc itself also holds the controlling software which is read by the CD-I player, thereby removing the requirement for a separate micro-computer, making the system much more attractive as a domestic consumer product. Effectively, all the consumer will need to do to be presented with an interactive programme is to connect the CD-I player to the domestic TV set, switch on player and TV, and put in the CD-I disc.

DV-I

DV-I (Digital Video Interactive) is a technology developed in the USA to allow full motion video to be stored on a CD-ROM disc together with audio, text and computer graphics.

The difference between DV-I and CD-I is that CD-I is a specification for a complete system, hardware and software; whereas DV-I is a technology based on computer chips which deliver previously compressed video and audio from a compact disc. DV-I requires an IBM PC AT or compatible and a CD-ROM drive.

Without DV-I technology, CD-ROM discs are only capable of holding 30 seconds of moving video. With DV-I, video and audio are compressed before being committed to the CD-ROM disc, so that fewer digital bits are required to represent the information and the disc can then hold over one hour of full motion video.

Conclusion

Increasingly, interactive video is being replaced by multi-media as a term to describe the technology based learning workstation of the future. Already workstations are being configured which include video players, video cameras, computers, CD-ROM drives and digital voice cards, enabling the monitor in front of the student to play a potent mix of still pictures, moving video (either full screen or in windows which can be changed in size and 'parked' anywhere on the screen), computer text and graphics, displays of the user's own voice and picture and on-line reference texts. While those whose profession

it is to teach interpersonal communication should always apply rigorous thought and standards to the ways in which technology should properly be used for these purposes, there is no doubt in many minds that well designed technology has much to offer to help to overcome the problems and skills shortages which beset the worlds of education and training.

Useful books

Interactive video Eric Parsloe (ed.), Sigma Technical Press, 1983.

The Duke Report Council for Educational Technology, 1983.

Interactivity Michael Picciotto, Ian Robertson and Ray Colley, Roger Page, 1989.

END WORD

Hopefully, this book has served to underline the tremendous potential opening up to us as language teachers. Potential which arises partly from the increasing availability of authentic television with all the motivational, linguistic and pedagogic opportunities it offers. Potential which is also created by the exciting technological breakthroughs and innovations that can open up a reservoir of exciting new activities.

The need is there, the means to satisfy that need are available, but are we geared up in education generally and in language teaching specifically to manage the introduction of change? Our record of introducing technology into learning and teaching has not been particularly impressive to date. One of our greatest failures, for instance, has surely been the inability to capitalise on the potential of the language laboratory, for a whole variety of reasons all of which in retrospect could have been avoided and, it must be said, most of which were not the fault of the teacher in the classroom.

The management of innovation and change has become a major concern in the commercial world outside. Advising on the implementation of new technological developments has almost become a mini-industry in its own right. Volumes have been written and fortunes made by consultants to industry and commerce who have been able to grasp and implement fundamental principles of successful innovation. Whether firms are introducing technology into their own production processes or whether they are attempting to launch a new product onto the market, clear principles on how to do it have emerged, which can be and are being applied to robots, soap powder or motor cars. But in education we have largely ignored these valuable experiences, feeling perhaps that the world of commerce is not relevant to the 'classroom'. The result is a list of educational initiatives and innovations that have foundered in terms of bringing really tangible large-scale benefits.

If technology is to contribute to the enrichment of our learning environment, governments, ministries, European organisations, and educational institutions must 'somehow' (and I realise the question is well and truly begged) get together to manage the innovation with the same professionalism as a multi-national company would accord to the launch of a major new initiative.

Here are a few principles and guidelines we should have in mind:

- Technology must be made to serve us; we must not be seduced by its awesome power.
- We must make sure we are well informed and advised about the possibilities.
- We must critically define our aims and objectives and rigorously apply the results of this definition.
- We must be prepared to change our way of thinking, but not to let the excitement for a new venture obscure the necessity for detailed planning.

- It is probably better to let the use of technology evolve modestly and gradually rather than to go for a 'big bang' which experience tells us is almost bound to fail.

- Attention must be paid at the user end to ensuring that the technology is as reliable and as simple to operate as possible. A lot of time and energy has been spent debating and developing what goes on in the ether tens of thousands of miles above our heads, but relatively little consideration has been given to the nuts and bolts of classroom or school use.

- The importance of communication between everybody involved cannot be too highly stressed - producers, technicians, writers, support staff, teachers and learners must all see how they fit into a coordinated pattern.

- Just as important is the role of adequate training. Too often we have been expected to master complex innovations, both pedagogical and technological, without proper guidance on how to do it.

We have then, in today's technology, a tool which has awesome potential for enriching and extending the teaching and learning of languages. The ideas for using it effectively are bubbling nicely, but whether we have the stamina, the resources and the conviction to realise the potential on an international scale will not be known for some time. If we can succeed, language teaching will benefit enormously. Satellite television and interactive video are perhaps uniquely placed to play a central role in the creation of a truly international learning community.

GLOSSARY

Analogue	Examples of analogue signals include pictures recorded on video tape and audio as pre-recorded on cassette audio tape.
Authentic television	Television programmes originally made for a native-speaking audience and not specifically for language learning.
Decoder	A piece of electronic equipment designed to unscramble signals which have been encrypted [see below]. After passing through the decoder, encrypted pictures appear 'normally' on the screen.
Digital	Examples of digital signals include a computer's output to the screen and audio recorded on compact disc.
Domesday	Schools LaserVision Programme produced by BBC Interactive TV Unit with support from Acorn and Phillips Electronics.
Downloading	The process of receiving and recording satellite signals.
Dual-standard monitor	A screen capable of displaying two different types of signal (e.g. digital and analogue output).
Educational Recording Agency	For educational copyright clearance - Address: c/o ALCS, 33-34 Alfred Place, London WC1E 7DP.
EPROM	Erasable Programmable Read Only Memory
Encryption	A system used by some programme producers to ensure that television pictures are only viewed by those who are authorised to do so or who have paid. This usually applies to channels carrying films, but certain other programmes can be encrypted. Without a decoder [see above] an encrypted signal appears as a lot of wavering lines on the screen and cannot be deciphered. There are at present enough channels broadcasting 'in the clear' for this not to be a major problem when seeking sources of EFL or foreign language material. However, the situation is volatile and should be watched since some channels do have plans to scramble their signals in the future. Suppliers should always have information on the current situation.

Eurostep	An educational broadcasting channel sponsored by the European Space Agency which provides all types of pan-European educational programmes. The address of the headquarters is: Rapeburg 63, 2311 Leiden, The Netherlands. [NB: The signals are broadcast in a standard called D2Mac and different electronics are needed to receive it.]
Footprint	The area covered by a satellite's 'beam'. Most of the major satellites can be received throughout Central Europe, but viewers on the fringes (Scotland, parts of Scandinavia, Greece) may have problems with the quality of reception. This can sometimes be overcome by installing a larger satellite dish than that needed in the centre of the footprint.
Interface	A hardware link between two components of a system.
LNB	This stands for Low Noise Amplifier and Block Down converter. It is a feedhorn device which interprets and distributes the satellite signal to your system and it is located in the centre of the dish. [Ensure that the installers make the LNB weather-proof as damp can seriously affect the signal quality.]
Megabyte	1,024K of computer storage, or approximately enough to store 1 million characters of text.
Microvitec	Bolling Road, Bradford. Tel: 0274 390011.
Monitor	The name given to a TV set which operates at 'video' frequency, i.e. it will not take the ordinary R.F. signal used in domestic TV receivers. The picture quality of 'monitors' is usually better and more stable and their use is advised where the TV set is for play-back only and is not part of an off-air recording system.
Mouse	A mouse is a small device which can be moved about on the desktop to control the movement of the cursor on a computer screen.
NIVC	24 Stephenson Way, London NW1 2HD. Tel: 071 387 2233.
NTSC	The broadcast signal standard used primarily in North and South America. To play back tapes recorded on the NTSC standard you need a multi-standard video and associated receiver/monitor.

OLYMPUS	The name of the European Space Agency's satellite, one channel of which is devoted to 'Eurostep' [see above].
Our Europe	A scheme devised by Avon, Brighton Polytechnic and the Beautiful Britain Group aiming to foster environmental awareness with a multi-national dimension. The address is: The Beautiful Britain Schools Research Unit, Brighton Polytechnic, Grand Parade, Brighton, East Sussex.
Overlay	The process of superimposing text or graphics onto a video picture.
PAL	The broadcast signal used in Britain and for most satellite transmissions. Significant exceptions are the Russian 'Gorizont' satellite, 'Eurostep' and some French channels.
R.F.	Stands for 'Radio Frequency' - the frequency used to receive the television signal on domestic television sets. R.F. receivers often do not give such a good picture as video monitors [see 'Monitor' above].
Receiver	A television set which receives the signal using the standard R.F. aerial input on domestic sets.
ROM Chip	Read Only Memory chip - a microchip containing software usable by the machine which therefore does not need to be loaded from disc.
SECAM	The broadcast system used for terrestrial broadcasts in France and some French satellite channels (particularly the Telecom satellite). SECAM is also used in Russia and most francophone countries. To view a SECAM signal in colour you will either need multi-standard viewing and recording equipment or you can install a SECAM converter which converts the signal to PAL before it enters your system.
Satellite TV Europe	A monthly magazine which lists most of the satellite programmes being broadcast and contains news and much useful information. The address is 57/59 Rochester Place, London NW1 9JU.
Touch Screen	A monitor which allows users to register decisions by lightly touching with the finger.
Transponder	Each satellite has a number of transponders. These are the devices which pick up and interpret the signal from Earth, before re-transmitting it. Basically each channel uses a

	separate transponder though some transponders also carry data in addition to the TV signal.
Uplink	The sending of a signal from earth up to the satellite.
Video	The general name given to the recorder/play-back equipment but also to the signal, which is usually clearer and more stable. Video monitors rather than R.F. receivers should be used where possible.

ISBN 0 948003 24 3

The aim of this book is to explore the possible applications in language teaching for two exciting new technologies - satellite television and interactive video. Advice is given on how to set up, expand, and effectively exploit these technologies in the classroom. A variety of activities are suggested for developing listening, speaking and writing skills at different levels.

The book concludes with a look at the future and some suggested guidelines to help teachers with the difficult task of purchasing new educational technologies and developing their use.

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